

[4910-13-U]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [66 FR 31527 6/12/2001]

[Docket No. 2001-NM-118-AD; Amendment 39-12260; AD 2001-12-05]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 747-100, 747-200, 747-300, and 747SR Series Airplanes Powered by General Electric CF6-45/50 and Pratt & Whitney JT9D-70 Series Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This amendment adopts a new airworthiness directive (AD) that is applicable to certain Boeing Model 747-100, 747-200, 747-300, and 747SR series airplanes powered by General Electric CF6-45/50 and Pratt & Whitney JT9D-70 series engines. This action requires a detailed visual inspection of the outboard diagonal brace for heat damage and cracking; and follow-on repetitive inspections or corrective actions, if necessary. This action also provides an optional terminating action for the requirements of this AD. This action is necessary to detect and correct heat damage to the diagonal brace, which could cause cracking or fracture of the diagonal brace, and possible loss of the diagonal brace load path and consequent separation of the strut and engine from the airplane.

DATES: Effective June 27, 2001.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of June 27, 2001.

Comments for inclusion in the Rules Docket must be received on or before August 13, 2001.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-114, Attention: Rules Docket No. 2001-NM-118-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056. Comments may be inspected at this location between 9:00 a.m. and 3:00 p.m., Monday through Friday, except Federal holidays. Comments may be submitted via fax to (425) 227-1232. Comments may also be sent via the Internet using the following address: 9-anm-iarcomment@faa.gov. Comments sent via fax or the Internet must contain "Docket No. 2001-NM-118-AD" in the subject line and need not be submitted in triplicate. Comments sent via the Internet as attached electronic files must be formatted in Microsoft Word 97 for Windows or ASCII text.

The service information referenced in this AD may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. This information may be examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC. FOR FURTHER INFORMATION CONTACT: Tamara L. Anderson, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2771; fax (425) 227-1181.

SUPPLEMENTARY INFORMATION: The FAA has received reports from two operators who found heat damage to the forward end of the diagonal brace on the outboard struts of two Model 747 series airplanes powered by General Electric CF6-50 series engines. Both airplanes had previously accomplished the strut/wing modification required by AD 95-13-07, amendment 39-9287 (60 FR 33336, June 28, 1995), which requires the accomplishment of Boeing Alert Service Bulletin 747-54A2158.

One operator reported that the sealant backup plates were not reinstalled during the accomplishment of Boeing Alert Service Bulletin 747-54A2158. In that case, the airplane had accumulated approximately 371 flight cycles and 1,781 flight hours since the accomplishment of the service bulletin. Another operator reported using BMS 5-95 sealant to seal the area, instead of using the higher heat-resistant BMS 5-63 sealant. In that case, the airplane had accumulated approximately 591 flight cycles and 2,653 flight hours since accomplishment of the service bulletin. Further investigation revealed that the use of BMS 5-95 sealant was specified by Boeing Alert Service Bulletin 747-54A2158, whereas BMS 5-63 sealant was specified by Boeing Service Bulletin 747-54A2117.

The manufacturer reports that operating temperatures at the firewall openings exceed the maximum service temperature of BMS 5-95, which causes that sealant to harden and disintegrate at those operating temperatures. Heat damage to the diagonal brace, if not corrected, could result in cracking or fracture of the diagonal brace, and possible loss of the diagonal brace load path and consequent separation of the strut and engine from the airplane.

The nacelle struts for General Electric CF6-45 and Pratt & Whitney JT9D-70 series engines are similar in design to the nacelle struts for General Electric CF6-50 series engines. Therefore, the FAA has determined that airplanes with any of these engines may be subject to the same unsafe condition.

Explanation of Relevant Service Information

The FAA has reviewed and approved Boeing Alert Service Bulletin 747-54A2208, dated March 29, 2001, which describes procedures for a detailed visual inspection of the outboard diagonal brace for heat damage and cracking; and follow-on repetitive inspections or corrective actions, if necessary. The inspection for signs of heat damage includes looking for discoloration or changes in primer color, and using the primer color at the aft end of the diagonal brace as a reference point. Corrective actions include replacing the diagonal brace, installing the backup plates, and replacing the existing sealant with heat-resistant BMS 5-63 sealant. Accomplishment of certain inspections of the backup plate and diagonal brace and corrective actions if necessary, and replacement of the sealant with heat-resistant sealant would constitute terminating action for the repetitive inspections.

Explanation of the Requirements of the Rule

Since an unsafe condition has been identified that is likely to exist or develop on other Model 747-100, 747-200, 747-300, and 747SR series airplanes powered by General Electric CF6-45/50 and Pratt & Whitney JT9D-70 series engines of the same type design, this AD is being issued to detect and correct heat damage to the diagonal brace, which could cause cracking or fracture of the diagonal brace, and possible loss of the diagonal brace load path and consequent separation of the strut and engine from the airplane. This AD also provides an optional terminating action for the requirements of this AD. This AD requires the accomplishment of the actions specified in this AD in accordance with Boeing Alert Service Bulletin 747-54A2208, as described previously, except as discussed below.

Differences Between the Service Information and This AD

Operators should note that, although Model 747-100 series airplanes are not listed in the effectivity of the previously referenced service bulletin, that model airplane is included in the applicability of this AD. The nacelle struts of General Electric CF6-45/50 and Pratt & Whitney JT9D-70 series engines on Model 747-100 series airplanes are similar in design to the nacelle struts on Model 747-200, 747-300, and 747SR series airplanes. Therefore, Model 747-100 series airplanes may be subject to the same unsafe condition revealed on Model 747-200, 747-300, and 747SR series airplanes.

Operators also should note that the previously referenced service bulletin specifies that the manufacturer may be contacted for disposition of certain replacement instructions. However, this AD requires the accomplishment of such action per a method approved by the FAA, or in accordance with data meeting the type certificate basis of the airplane approved by a Boeing Company Designated Engineering Representative who has been authorized by the FAA to make such findings.

Interim Action

The FAA is considering further rulemaking action to supersede this AD to require removal of the existing sealant and replacement with heat-resistant sealant, which would constitute terminating action for the repetitive inspections required by this AD action. However, the planned compliance time for these actions is sufficiently long so that prior notice and time for public comment will be practicable.

Determination of Rule's Effective Date

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified under the caption "ADDRESSES." All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Submit comments using the following format:

- Organize comments issue-by-issue. For example, discuss a request to change the compliance time and a request to change the service bulletin reference as two separate issues.
- For each issue, state what specific change to the AD is being requested.
- Include justification (e.g., reasons or data) for each request.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this rule must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 2001-NM-118-AD." The postcard will be date stamped and returned to the commenter.

Regulatory Impact

The regulations adopted herein will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and that it is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, may be obtained from the Rules Docket at the location provided under the caption "ADDRESSES."

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "av-info.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2001-12-05 BOEING: Amendment 39-12260. Docket 2001-NM-118-AD.

Applicability: Model 747-100, 747-200, 747-300, and 747SR series airplanes, certificated in any category, powered by General Electric CF6-45/50 series engines, or Pratt & Whitney JT9D-70 series engines.

Note 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (d) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To detect and correct heat damage to the diagonal brace, which could cause cracking or fracture of the diagonal brace, and possible loss of the diagonal brace load path and consequent separation of the strut and engine from the airplane, accomplish the following:

Verification

(a) Within 90 days after the effective date of this AD, do the actions required by paragraph (a)(1) or (a)(2) of this AD, as applicable.

(1) If an operator's maintenance records verify that, during the accomplishment of AD 95-13-07, amendment 39-9287, the seal backup plates were restored and BMS 5-63 high-temperature sealant was used in that restoration, no further action is required by this AD.

(2) If an operator's maintenance records do not verify that the actions specified in paragraph (a)(1) were accomplished, do the actions required by paragraph (b) of this AD.

Inspections and Corrective Actions

(b) Within 90 days after the effective date of this AD, do the inspections and applicable corrective actions specified by paragraphs (b)(1) and (b)(2) of this AD per the Accomplishment Instructions of Boeing Alert Service Bulletin 747-54A2208, dated March 29, 2001. Thereafter, repeat the inspections at intervals not to exceed 6 months, except as provided by paragraph (c) of this AD.

Outboard Strut Diagonal Brace

(1) Do a detailed visual inspection of the forward 20 inches of the outboard strut diagonal brace, including all areas of the forward clevis lugs and brace body, for signs of heat damage or cracks, per Part 1 of the Accomplishment Instructions of the service bulletin.

(i) If no sign of heat damage or cracking is found, repeat the detailed visual inspection at intervals not to exceed 6 months per the service bulletin, until accomplishment of paragraph (c) of this AD.

(ii) If any primer discoloration is found, before further flight, do a non-destructive test (NDT) inspection of the area to determine if the diagonal brace has heat damage per Part 1 of the Accomplishment Instructions of the service bulletin.

(A) If no heat damage is found during the NDT inspection, and no cracking is found during the detailed visual inspection, repeat the detailed visual inspection specified by paragraph (b)(1) of this AD at intervals not to exceed 6 months.

(B) If any heat damage is found during the NDT inspection, or any cracking is found during the detailed visual inspection, before further flight, do the action specified in paragraph (c)(2) of this AD. Thereafter, repeat the detailed visual inspection specified by paragraph (b)(1) of this AD at intervals not to exceed 6 months.

Firewall Openings of the Strut Aft Bulkhead

(2) Do a detailed visual inspection of the firewall openings of the strut aft bulkhead to verify installation of seal backup plates and condition of the sealant application per Part 1 of the Accomplishment Instructions of the service bulletin.

(i) If no discrepancy (including damaged or missing seal backup plates, or damaged or missing sealant) is found, repeat the detailed visual inspection specified by paragraph (b)(1) of this AD at intervals not to exceed 6 months.

(ii) If the seal backup plates are not installed, before further flight, install the seal backup plates and apply heat-resistant sealant, BMS 5-63, per Part 2 of the Accomplishment Instructions of the service bulletin. Accomplishment of this action terminates the repetitive inspections required by this AD.

(iii) If the seal backup plates are installed, but the sealant application is damaged or missing, before further flight, remove any existing sealant and apply heat-resistant sealant, BMS 5-63, per Part 3 of the Accomplishment Instructions of the service bulletin. Accomplishment of this action terminates the repetitive inspections required by this AD.

Note 2: Because it is difficult to distinguish between BMS 5-95 and BMS 5-63 sealants, removal and replacement of the existing sealant is required to ensure that the correct heat-resistant sealant, BMS 5-63, is used.

Optional Terminating Action

(c) Accomplishment of the inspections required by paragraphs (b)(1) and (b)(2) of this AD and the actions specified by paragraphs (c)(1), (c)(2), and (c)(3) of this AD, as applicable, constitutes terminating action for the requirements of this AD.

(1) Before further flight following the inspections required by paragraphs (b)(1) and (b)(2) of this AD, if no cracking or heat damage is found and the seal backup plates are installed, remove any existing sealant and apply heat-resistant sealant, BMS 5-63, per Part 3 of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-54A2208, dated March 29, 2001.

(2) If any sign of heat damage or cracking is found during the inspections required by paragraph (b) of this AD, before further flight, do the actions specified by either paragraph (c)(2)(i) or (c)(2)(ii) of this AD.

(i) Replace the diagonal brace per Part 4 of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-54A2208, dated March 29, 2001; OR

(ii) Repair per a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA; or per data meeting the type certification basis of the airplane approved by a Boeing Company Designated Engineering Representative who has been authorized by the Manager, Seattle ACO, to make such findings. For a repair method to be approved by the Manager, Seattle ACO, as required by this paragraph, the Manager's approval letter must specifically reference this AD.

(3) If the seal back-up plates are missing, before further flight, do the actions required by paragraph (b)(2)(ii) of this AD.

Alternative Methods of Compliance

(d) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Seattle ACO. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Seattle ACO.

Note 3: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle ACO.

Special Flight Permits

(e) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

Incorporation by Reference

(f) Except as provided by paragraph (c)(2)(ii) of this AD, the actions shall be done in accordance with Boeing Alert Service Bulletin 747-54A2208, dated March 29, 2001. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

Effective Date

(g) This amendment becomes effective on June 27, 2001.

FOR FURTHER INFORMATION CONTACT: Tamara L. Anderson, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2771; fax (425) 227-1181.

Issued in Renton, Washington, on June 4, 2001.

Donald L. Riggins, Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.